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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 15

Application Number: 08/993,104
Filing Date: December 10, 1997
Appellant(s): Scott Rosenberg et al.

Kenneth M. Seddon
For Appellant

EXAMINER'S ANSWER

This is in response to appellant's brief on appeal filed July 24, 2000.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement that there are no related appeals and interferences is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The appellant's statement of the grouping of claims in the brief is correct.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,436,635	TAKAHARA ET AL.	7-1995
4,870,396	SHIELDS	9-1989

MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 1997

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14,16-20, 22, 24-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation " first circuit configuration to substantially simultaneously and asynchronously drive respective positive and negative voltage signals "(page 10, lines 2-3); the terms "substantially simultaneously and asynchronously " and " substantially predetermined rate "(page 10, line 6) render the claim vague and indefinite. According to "Merriam-Webster's Collegiate Dictionary", simultaneous means existing or occuring at the same time (page 1094) and asynchronous means not happening, existing or arising at precisely the same time (pages 72 and 1196). The term substantially implies a certain tolerance allowed as related to the timing of driving voltage. Putting those three terms together in the claim definitely causes the claim indefinite because it does not point out the subject matter which applicants regards as the invention ; how would a timing diagram be drawn to illustrate those three combined concepts.

The examiner reviewed the disclosure and found that the exact same terms were used(page 8, lines 15-18) without clear cut precise language; therefore the claim is vague and indefinite. As to limitation "substantially determined rate", the disclosure provided unprecise language "substantially predetermined frequency"(page 67, line 25); therefore, the Court case cited by Applicants does not apply here.

Claim 9 recites the limitation " first circuit configuration to substantially simultaneously and asynchronously drive respective positive and negative voltage signals " (page 10, lines 4-5) ; the terms " substantially simultaneously and asynchronously " and " substantially predetermined rate "(page 10, line 8) render the claim vague and indefinite. The ground of rejection is maintained (see claim 1 rejection).

Claim 14 recites the limitation " applying respective voltage signals to respective voltage signal storage elements substantially simultaneously and asynchronously, sampling the voltage signals of the respective voltage signal storage elements at a substantially predetermined rate" (page 11, lines 2-5) ; the terms "substantially simultaneously and asynchronously" and "substantially predetermined rate" render the claim vague and indefinite.The ground of rejection is maintained (see claim 1 rejection).

Claim 16 is incomplete due to canceled claim 15. It recites limitation "liquid crystal cell material of the liquid crystal cell". There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation " first circuit to substantially simultaneously and asynchronously drive respective positive and negative voltage signals " (page 11, lines 2-3) ; the term "substantially simultaneously and asynchronously " renders the claim vague and indefinite. The ground of rejection is maintained .

Claim 20 recites the limitation " second circuit is adapted to sample the voltage signals of the respective voltage signal storage elements at a substantially predetermined rate" (page 11, lines 2-3) ; the term "substantially predetermined rate" renders the claim vague and indefinite.The ground of rejection is maintained (see claim 1 rejection).

Claim 22 recites the limitation " applying respective voltage signals to respective voltage signal elements substantially simultaneously and asynchronously, and sampling the voltage signals of the respective voltage signal storage elements at a substantially predetermined rate" (page 12, lines 2-5) ; the terms "substantially simultaneously and asynchronously" and "substantially predetermined rate" render the claim vague and indefinite.The ground of rejection is maintained (see claim 1 rejection).

Claim 24 recites the limitation " first circuit configuration to substantially simultaneously and asynchronously drive respective positive and negative voltage signals ..., and a second circuit configuration to sample the voltage signals of the respective voltage signal storage elements at a substantially predetermined rate" (page 11, lines 4-8) ; the term "substantially simultaneously and asynchronously" and "substantially predetermined rate" render the claim vague and indefinite.The ground of rejection is maintained (see claim 1 rejection).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 through 14, 16 through 25 are rejected under 35 U.S.C. 103(a) as being obvious over Takahara et al. (U.S. Patent 5,436,635) in view of Shields (U.S. Patent 4,870,396).

As to claims 1, 9, 14, 18, 22, 24, Takahara et al. discloses a circuit and associated method for modulating voltage signals comprising a first circuit configuration (phase division circuit 42, source drive IC 11/12, figure 2) to drive positive and negative voltage signals (V(P) and V(M), figure 3), and a second circuit configuration (TFT as switching elements for writing signal to pixel electrodes, column 6, lines 63-64, column 19, lines 36-38), changeover circuits 121/122 in figure 11, column 19, lines 55-65, column 20, lines 52-63) to alternatively sample the respective voltage signals at a substantially predetermined rate. However, Takahara et al. fails to expressly teach voltage signal storage elements. Shields teaches voltage signal storage elements (storage capacitors 24, figure 4, column 2, lines 58-63) . It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Takahara et al., then add a voltage signal storage element to each pixel cell , as taught by Shields, to obtain the

combined apparatus Takahara et al.-Shields because it would provide a sample and hold circuit, as taught by Shields(column 2, lines 58-60), and facilitate storage of video signal.
The terms simultaneously and asynchronously being used together cause indefineteness, and contradiction; that is why the examiner chose not to use these terms together.

As to claims 2, 3, 4, 5, 10, 11, 12, 13, 16 and 25, Takahara et al.-Shields further teaches liquid crystal cell (see Shields, liquid crystal cell LC in figure 4), circuitry to address said liquid crystal cell (see Shields, transistor 22, figure 4), additional drive signals(see Takahara et al., transistors Tm11/Tm12/... in figure 1). One skilled in the art would know how to sample at a substantially predetermined rate as related to a particular liquid crystal material.

As to claims 6, 7, 8 and 17, Takahara et al.-Shields further teaches a plurality of transistors (see Shields, transistors 22 and 62 in figure 4) coupled to electrically isolate said voltage signal storage elements from said liquid crystal cell, and embodiment on an integrated circuit chip(see Takahara et al., column 13, lines 23-35).

As to claims 19, 20, 21 and 23, Takahara et al.-Shields teaches voltage signals comprising respective positive and negative voltage signals (see Takahara et al. , source drive IC (P) and source drive IC (M), figure 1), voltage sampling at a substantially predetermined rate (Shields, synchronous line-at-a-time loading, column 3, lines 12-19), voltage sampling so as to substantially maintain a substantially DC bias (Shields, AC activated displays , column 1, lines 36-39, applied RMS voltage across liquid crystal LC column 4, lines 10-11) . It would be obvious to a person of ordinary skill in the art to arrange two respective voltage signal storage

elements to accommodate respective positive and negative voltage signals because it would enable efficient storage of both voltage signals.

Response to Arguments

Applicant's arguments filed on 11/08/99 have been fully considered but they are not persuasive.

As to claims 1-20, 22, 24-25, Applicant's argument that these are definite. The examiner agrees with the cited Court case and M.P.E.P.section 2173.05(b). However, the examiner maintains the 35 U.S.C. 112 rejection because a review of the specification as related to limitations "substantially simultaneously and asynchronously" indicates unprecise language(see details in claim 1 rejection). Therefore, the cited Court case does not apply here.

As to Applicant's argument that extrinsic evidence has been improper relied on , the examiner disagrees because the wording of claim 1 in terms of signal driving brings out contradiction (examiner's conclusion) between concept "simultaneously driving" and " asynchronously driving". The dictionary is offered as proof of contradiction in the wording to substantiate the examiner conclusion; therefore issue of intrinsic/extrinsic evidence does not apply here. The specification (intrinsic evidence) repeatedly uses the same contradictory wording which causes consistent ambiguity (simultaneous driving and asynchronous driving both cause this ambiguity when used in the same context). The examiner affirms that there is better, concise, unambiguous, logical way to illustrate the claimed invention. Note that rejection of 112/2nd paragraph is based on the

wording/claim language rather the specification language. The examiner affirms that the claims are unclear, ambiguous for the reason mentioned above. If the timing of driving voltage is crucial in the invention, how would that combined simultaneously-asynchronously feature be illustrated in a timing diagram? Note the exotic wording "ASNCHROUNOUSLY" in Appellant's argument (Appeal Brief, page13, line 6) illustrates one utility of a dictionary. It is perfectly clear that such word is not substantiated in the specification.

As to Appellant's argument that examiner improperly treated these concepts as synonyms, the examiner disagrees since the definitions are quoted from a dictionary instead of the examiner's own word construction/definition.

As to Appellant's argument that the examiner has not established a prima facie showing of obviousness, the examiner disagrees due to the explanation of obviousness in the rejections above. Again, note that Takahara et al. teaches a phase division circuit 42, source drive IC 11/12, as shown in figure 2(this corresponds to the claimed circuit configuration for substantially simultaneously drive respectively positive and negative voltage signals), TFT and changeover circuits 121/122(figure 11, column 19, lines 55-65, column 20, lines 52-63) which corresponds to the claimed second circuit configuration to alternatively sample respective voltage signals. Shields is cited to teach the claimed voltage signal storage elements(capacitors 24, figure 4, column 2, lines 58-63). These limitations correspond to the independent claims 1, 9, 18 and 24. As to claims 14 and 22, note these same citations; note that Takahara et al.-Shield teaches AC activated display (Shields, column 1, lines 36-39), RMS voltage(Shields, column 4, lines 10-11) which

implies a determined frequency. Note that concept of asynchronously driving is taught in the apparatus of Takahara et al-Shields (Takahara et al., figure 1, driving from one scan line Gp1 to another scan line Gp2 is performed asynchronously).

As to Appellant's misquote "the claims are specifically directed to structural means as shown in the drawings" (Appeal brief, page 17), note that the examiner constructively suggested in the final office action that the claims being so vague and indefinite need a rework by using the structural means as shown in the drawing; in another word, they need claim breadth and specificity.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

FN
September 21, 2000

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